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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,831	04/06/2001	Hiroyoshi Kamoda	0965-0348P	5091

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

CULLER, JILL E

ART UNIT	PAPER NUMBER
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2854

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/826,831	Applicant(s) KAMODA, HIROYOSHI	
	Examiner Jill E. Culler	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on April 6, 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1, 3-9 and 11 are objected to because of the following informalities:

In claim 1, on line 21, it appears that the word "include" should be "including" instead.

In claim 4, on line 7, the word "is" appears to be unnecessary.

In claim 6, on line 16, the word "fashion" appears to be missing between "zigzag" and "with respect".

In claim 11, on line 3, the word "a" appears to be missing before "first face".

Appropriate correction and/or clarification is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 6-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP01316268 to Funada in view of U.S. Patent No. 4,448,121 to Uno et al. and U.S. Patent No. 6,36,187 to Schaede.

With respect to claims 1 and 6, Funada shows a double-sided printing machine comprising: a printing unit, 1, for printing opposite faces of a sheet-like material; ink supply means for supplying ink to said printing unit, 35, 36, said ink supply means being

supported to be brought into contact with and separated from said printing unit, see Fig. 2; and transport means, 22, for transporting said sheet-like material from said printing unit while holding said sheet-like material,

Funada does not teach a delivery pile provided downstream of the printing unit for collecting the sheet-like material, or that the transport means includes a first delivery chain passing through a lower side of the ink supply means, a second delivery chain provided above the delivery pile, a plurality of transport cylinders for transporting the sheet-like material from the first delivery chain to the second delivery chain and provided at a position higher than the first delivery chain and lower than the second delivery chain, said plurality of transport cylinders including a first transport cylinder and a second transport cylinder provided adjacent to the delivery pile and arranged in a zigzag fashion with respect to a vertical direction, first detection means for detecting a status of printing on one face of the sheet-like material when the sheet-like material is transported by the first transport cylinder; and second detection means for detecting a status of printing on the other face of the sheet-like material when the sheet-like material is transported by the second transport cylinder.

Uno et al. teaches a delivery pile, 31, provided downstream of the printing unit for collecting the sheet-like material, see column 4, lines 65-68, and transport means including a first delivery chain, 20, a first transport cylinder, 12, and a second transport cylinder, 13, arranged in a zigzag fashion with respect to a vertical direction, for transporting the sheet-like material from the first delivery chain and a second delivery chain, 10, for transporting the sheet-like material from the transport cylinders, a first

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detection means, 15, for detecting a status of printing on one face of the sheet-like material when the sheet-like material is transported by the first transport cylinder, 12, and second detection means, 16, for detecting a status of printing on the other face of the sheet-like material when the sheet-like material is transported by the second transport cylinder, 13. See Fig. 1 in particular.

Schaede teaches a plurality of transport cylinders, 29, 31, 37, provided adjacent to a delivery pile, 63-69, and provided at a position higher than a first delivery chain, 28, and lower than a second delivery chain, 47. See column 4, lines 16-38, column 5, lines 10-12 and Figure 1.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the printing unit of Funada using the transport means and quality inspection apparatus of Uno et al., located adjacent to the delivery pile and between the two delivery chains, as taught by Schaede, in order to be able to inspect the quality of the printed sheets while transporting them from the printing unit to the delivery pile.

With respect to claims 3 and 7, Funada does not teach that the first and second transport cylinders are suction cylinders.

Schaede teaches the use of suction cylinders to transport sheets in a printing machine. See column 4, lines 18-27 and 43-44.

It would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the invention of Funada using the suction cylinders of Schaede in order to better control the transport of the sheets.

With respect to claim 11, Funada shows a double-sided printing machine comprising: a printing unit, 1, for printing opposite faces of a sheet-like material; ink supply means for supplying ink to said printing unit, 35, 36, said ink supply means being supported to be brought into contact with and separated from said printing unit, see Fig. 2; and transport means, 22, for transporting said sheet-like material from said printing unit while holding said sheet-like material,

Funada does not teach a delivery pile provided downstream of the printing unit for accumulating the sheet-like material, or that the transport means includes a first delivery chain passing through a lower side of the ink supply means, a plurality of transport cylinders, disposed near the delivery pile, for transporting the sheet-like material from the first delivery chain, and a second delivery chain for transporting the sheet-like material from the plurality of transport cylinders to the delivery pile, said plurality of transport cylinders including at least a first transport cylinder, a second transport cylinder disposed downstream of the first transport cylinder in a direction of transport of the sheet-like material, and a third transport cylinder located downstream of the second transport cylinder in the direction of transport of the sheet-like material so as to be opposed to and in contact with the second transport cylinder, first detection means for detecting a status of printing on one face of the sheet-like material when the sheet-like material is transported by the first transport cylinder; and second detection means for detecting a status of printing on the other face of the sheet-like material when the sheet-like material is transported by the second transport cylinder.

Uno et al. teaches a delivery pile, 31, provided downstream of the printing unit for collecting the sheet-like material, see column 4, lines 65-68, and transport means including a first delivery chain, 20, a first transport cylinder, 12, and a second transport cylinder, 13, arranged in a zigzag fashion with respect to a vertical direction, for transporting the sheet-like material from the first delivery chain and a second delivery chain, 10, for transporting the sheet-like material from the transport cylinders, a first detection means, 15, for detecting a status of printing on one face of the sheet-like material when the sheet-like material is transported by the first transport cylinder, 12, and second detection means, 16, for detecting a status of printing on the other face of the sheet-like material when the sheet-like material is transported by the second transport cylinder, 13. See Fig. 1 in particular.

Schaede teaches a plurality of transport cylinders, including a first transport cylinder, 29, a second transport cylinder, 31, disposed downstream of the first transport cylinder in a direction of transport of the sheet-like material, and a third transport cylinder, 37, located downstream of the second transport cylinder in the direction of transport of the sheet-like material so as to be opposed to and in contact with the second transport cylinder, and provided adjacent to a delivery pile, 63-69. See column 4, lines 16-38, column 5, lines 10-12 and Figure 1.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the printing unit of Funada using the transport means and quality inspection apparatus of Uno et al., located adjacent to the delivery pile and with a third

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transport cylinder, as taught by Schaede, in order to be able to inspect the quality of the printed sheets while transporting them from the printing unit to the delivery pile.

4. Claims 4-5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funada in view of Uno et al. and Schaede as applied to claims 1, 3, 6-7 and 11 above, and further in view of U.S. Patent No. 4,794,856 to Giori.

With respect to claims 4-5 and 9, Funada, Uno et al. and Schaede teach all that is claimed, as in the above rejection of claims 1, 3, 6-7 and 11 except that a first drying means is provided on the upstream side, with respect to the transport direction, of a detection position at which said first detection means detects the sheet-like material held by the first transport cylinder and a second drying means is provided on the upstream side, with respect to the transport direction, of a detection position at which the second detection means detects the sheet-like material held by the second transport cylinder, wherein the first drying means is disposed to face the first transport cylinder and the second drying means is disposed to face the second transport cylinder.

Giori teaches a drying means disposed to face a transport cylinder.

It would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the invention of Funada using the drying means of Giori on each transport cylinder in order to be able to dry the printed material before it is inspected, minimizing the chance of smudging during or after inspection.

With respect to claim 10, Funada, Uno et al., Schaede and Giori teach all that is claimed as discussed in the above rejections.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Funada in view of Uno et al. and Schaede as applied to claims 1, 3, 6-7 and 11 above, and further in view of U.S. Patent No. 6,192,140 to Reinhard et al.

Funada, Uno et al. and Schaede teach all that is claimed, as in the above rejection of claims 1, 3, 6-7 and 11, except that the first detection means includes a first spotlight and the second detection means includes a second spotlight.

Reinhard et al. teaches a first detection means including a first spotlight, 32, and a second detection means including a second spotlight, 33. See column 3, lines 4-11.

It would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the invention of Funada using the spotlights of Reinhard et al. in order to be able to inspect the printed sheets with better lighting.

Response to Arguments

6. Applicant's arguments with respect to claims 1 and 3-10 have been considered but are moot in view of the new ground(s) of rejection.

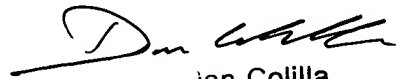
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (571) 272-2159. The examiner can normally be reached on M-Th 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jec


Dan Colilla
Primary Examiner
Art Unit 2854